

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 05 AUG 07 PM 1:30

REGION VII
901 NORTH FIFTH STREET
KANSAS CITY, KANSAS 66101

ENVIRONMENTAL PROTECTION
AGENCY-REGION VII
REGIONAL HEARING CLERK

BEFORE THE ADMINISTRATOR

IN THE MATTER OF

MISSOURI DEPARTMENT OF
TRANSPORTATION

Respondent

Proceedings under Section 309(a)(3)
of the Clean Water Act,
33 U.S.C. § 1319(a)(3)

)

)

) Docket No. CWA -07-2005-0273

)

) FINDINGS OF VIOLATION

) AND ORDER FOR

) COMPLIANCE ON CONSENT

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
901 NORTH FIFTH STREET
KANSAS CITY, KANSAS 66101

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ENVIRONMENTAL PROTECTION
AGENCY-REGION VII
REGIONAL HEARING CLERK

BEFORE THE ADMINISTRATOR

IN THE MATTER OF)	
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MISSOURI DEPARTMENT OF)	Docket No. CWA -07-2005-0273
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of the Clean Water Act,)	
33 U.S.C. § 1319(a)(3))	

A. FINDINGS OF VIOLATIONS

Jurisdiction and Preliminary Statement

1. The FINDINGS OF VIOLATION are made and ORDER FOR COMPLIANCE ON CONSENT ("Order on Consent") is issued pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency, by Section 309(a)(3) of the Clean Water Act ("CWA" or the "Act"), 33 U.S.C. §1319(a)(3), as delegated by the Administrator to the Regional Administrator, EPA Region VII, and further delegated to the Director, Water, Wetlands and Pesticides Division, EPA Region VII.

2. The EPA has reason to believe that the Missouri Department of Transportation ("Respondent" or "MoDOT") violated Section 301 of the CWA, 33 U.S.C. §1311, by discharging dredged or fill material into navigable waters of the United States without

obtaining the necessary permits required by Section 404 of the CWA, 33 U.S.C. §1344, and by failing to comply with a permit it holds, the General Operating Permit for Highway Construction, also known as the National Pollution Discharge Elimination System (“NPDES”) permit, required by Section 402 of the CWA.

3. The EPA and Respondent, having determined that settlement of this matter is in the best interest of both parties, come now and enter into this Order on Consent.

Statutory and Regulatory Framework of Section 402 of the CWA

4. Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants, by any person except in compliance with, *inter alia*, Section 402 of the CWA, 33 U.S.C. §§ 1342. Section 402 of the CWA, 33 U.S.C. § 1342, provides that pollutants may be discharged only in accordance with the terms of an NPDES permit issued pursuant to that Section.

5. The CWA prohibits the discharge of “pollutants” from a “point source” into a “navigable water” of the United States, as these terms are defined by Section 502 of the CWA, 33 U.S.C. § 1362.

6. Section 402(p) of the CWA, 33 U.S.C. § 1342(p) sets forth requirements for the issuance of NPDES permits for the discharge of storm water. Section 402(p) of the CWA, 33 U.S.C. §1342(p), requires, in part, that a discharge of storm water associated with industrial activity must conform with the requirements of an NPDES permit issued pursuant to Sections 301 and 402 of the CWA, 33 U.S.C. §§ 1311 and 1342.

7. Pursuant to Section 402(p) of the CWA, 33 U.S.C. § 1342(p), EPA promulgated regulations setting forth the NPDES permit requirements for storm water discharges at 40 C.F.R. § 122.26.

8. 40 C.F.R. §§ 122.26 (a)(1)(ii) and 122.26 (c) require dischargers of storm water associated with industrial activity to apply for an individual permit or to seek coverage under a promulgated storm water general permit.

9. 40 C.F.R. § 122.26 (b)(14)(x) defines “storm water discharge associated with industrial activity” in part, as construction activity including clearing, grading, and excavation, except operations that result in the disturbance of less than five (5) acres of total land area which are not part of a larger common plan of development or sale.

10. The Missouri Department of Natural Resources (“MDNR”) is the state agency with the authority to administer the federal NPDES program in Missouri pursuant to Section 402 of the CWA, 33 U.S.C. § 1342. EPA maintains concurrent enforcement authority with delegated states for violations of the CWA.

11. MDNR issued a NPDES General Permit for the discharge of storm water associated with construction sites, Permit Number MO-R100007 (“the Permit”), specifically:

Construction or land disturbance activity (e.g. clearing, grubbing, excavating, grading, and other activity that results in the destruction of the root zone).

The Permit became effective on April 11, 2003 and remains in effect until April 18, 2007.

Section 402 of the CWA - Factual Background

12. On or about January 2004, Respondent initiated construction activities to expand Highway 63 in Macon and Adair Counties, Missouri (“Highway 63 Construction Site”) for 21.6 miles, covering approximately 90 acres. Construction activities include

clearing, grading and excavation which have disturbed five (5) or more acres of total land area.

13. Storm water, surface drainage, and runoff water has left the Highway 63 Construction Site on the east side of Highway 63 moving into drainage paths of unnamed tributaries leading to the Middle Fork Salt River. The runoff and drainage from the site is “storm water” as defined by 40 C.F.R. § 122.26(b)(13).

14. Storm water contains “pollutants” as defined by Section 502(6) of the CWA, 33 U.S.C. § 1362(6).

15. Respondent’s storm water runoff is a “discharge of a pollutant” as defined by Section 502(12) of the CWA, 33 U.S.C. § 1362.

16. The Highway 63 Construction Site is a “point source” which has caused the “discharge of pollutants” as defined by Section 502 of the CWA, 33 U.S.C. § 1362.

17. Respondent discharged pollutants into unnamed tributaries to Middle Fork Salt River. The Middle Fork Salt River is a “navigable water” as defined by Section 502 of the CWA, 33 USC. § 1362.

18. Respondent’s discharge of pollutants associated with an industrial activity, as defined by 40 C.F.R. § 122.26(b)(14)(x), requires a permit issued pursuant to Section 402 of the CWA, 33 U.S.C. § 1342.

19. Respondent applied for and was issued NPDES permit coverage under the General Permit described in Paragraph 11 above.

20. On June 18, 2004 and August 4, 2004, MDNR performed inspections of the Highway 63 Construction Site under the authority of Section 644.026.1 RSMo. of the

Missouri Clean Water Law to determine Respondent's compliance with its General Permit.

21. On June 28-29, 2004, EPA performed an inspection of the Highway 63 Construction Site under the authority of Section 308(a) of the CWA, 33 U.S.C. § 1318(a), to evaluate the treatment and disposal of storm water at the Highway 63 Construction Site in accordance with the CWA.

Findings of Violation of Section 402 of the CWA

22. The facts stated in Paragraphs 12 through 21 above are herein incorporated.

23. Part 13 (Requirements and Guidelines) of Respondent's Permit requires Respondent to maintain at all times all pollution control measures and systems in good order to achieve compliance with the terms of the General Permit.

24. The inspections referenced in Paragraphs 20 and 21 above revealed that i) silt fences were undermined at three locations on June 18, 2004 and remained undermined on June 28-29, 2004; ii) no storm water control structures were present along the newly constructed roadway or around drainage inlets on June 18, 2004, and iii) no ditch checks were present on June 28-29, 2004 where sediment was present off-site in drainage ways leading east to unnamed tributaries which flow into the Middle Fork Salt River.

25. Part 12 (Requirements and Guidelines) of the Permit requires Respondent to inspect a land disturbance site at a minimum of once per week and, after heavy rainfall, within 72 hours. Part 12 further requires Respondent to correct any deficiencies within seven calendar days of inspection.

26. Respondent's inspections logs from January 2004 through June 2004 and the EPA inspection referenced in Paragraph 21 above indicate that Respondent did not

inspect silt fences immediately after each rainfall and did not make corrections within seven days of noting the deficiency in silt fences.

27. Part 3 (Requirements and Guidelines) of the Permit prohibits Respondent from discharging into waters of the state such that the substances cause unsightly color or turbidity.

28. On August 4, 2004, following a rainfall event of approximately 3.5 inches on August 3, 2004, the MDNR inspector observed storm water leaving the Highway 63 Construction Site causing turbidity in unnamed tributaries of the Middle Fork Salt River near Katydid Street and Highway 63, south of Highway 63 and the junction of NN, north of Kiln Street, and south of Kiln Street.

29. By failing to maintain at all times all pollution control measures and systems in good order, such as silt fences, storm water control structures and ditch checks, failing to correct deficiencies within seven calendar days of an inspection, and failing to protect waters in the above-referenced unnamed tributaries of the Middle Fork Salt River from being free of substances in sufficient amount to cause unsightly color or turbidity, Respondent failed to comply with Parts 13, 12 and 3 of its NPDES Permit. Non-compliance with the NPDES Permit is a violation of Sections 301(a) and 402(p) of the CWA, 33 U.S.C. §§ 1311(a) and 1342(p).

30. At all times relevant to this administrative action, the unnamed tributaries leading to the Middle Fork Salt River and the Middle Fork Salt River are each a “water of the United States” as defined by 40 C.F.R. § 232.2 and 33 C.F.R. § 328.3.

31. Based on information and belief, in August 2004, Respondent or one acting on its behalf, discharged pollutants into waters of the United States in violation of its NPDES permit.

Statutory and Regulatory Framework of Section 404 of the CWA

32. Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants, by any person except in compliance with, inter alia, Section 404 of the CWA, 33 U.S.C. §§ 1344.

33. Section 404 of the CWA, 33 U.S.C. § 1344, provides that the discharge of dredged or fill material into a “navigable water” of the United States, as these terms are defined by Section 502 of the CWA, 33 U.S.C. § 1362, occur in accordance with a permit issued under that Section.

34. Section 404 of the CWA, 33 U.S.C. § 1344, provides that the Secretary of the Army, acting through the Chief of Engineers, may issue permits for the discharge of dredged or fill material into navigable waters at specified disposal sites, after notice and opportunity for public comment.

35. Section 502(12) of the CWA, 33 U.S.C. § 1362(12), defines “discharge of a pollutant” to include “any addition of any pollutant to navigable waters from any point source.”

36. Section 502(6) of the CWA, 33 U.S.C. § 1362(6), defines “pollutant” to include, inter alia, dredged spoil, rock, sand and cellar dirt.

37. Section 502(7) of the CWA, 33 U.S.C. § 1362(7), defines “navigable waters” as “the waters of the United States, including the territorial seas.”

38. Section 502(14) of the Act, 33 U.S.C. § 1362(14), defines “point source” as any discernible, confined and discrete conveyance...from which pollutants are or may be discharged.”

39. 40 C.F.R. § 232.2 and 33 C.F.R. Part 328 define waters of the United States, in part, as, “ lakes, rivers and streams, ...wetlands.”

40. Section 502 of the CWA defines “person” to include a State or a political subdivision of a State.

41. Section 404 of the CWA requires a person to obtain a permit from the United States Army Corps of Engineers (“Corps”) prior to any discharge of dredged or fill material into the navigable waters of the United States.

Section 404 of the CWA - Factual Background

Count I

42. During the week of July 21, 2003, Respondent or one acting on its behalf, performed excavation activities with a bulldozer in an area that is part of the Consolidated Wetland Mitigation Area, located adjacent to the Grand River near Chillicothe, Livingston County, Missouri. During the excavation, dirt, spoil rock or sand were discharged into the wetlands.

43. The bulldozer used by Respondent acted as a “point source” within the meaning of Section 502(14) of the Act, 33 U.S.C. § 1362(14).

44. The gravel and earthen material that was placed into the Consolidated Wetland Mitigation Area is a “pollutant” within the meaning of Section 502(6) of the CWA, 33 U.S.C. § 1362(6).

45. The deposition of gravel and earthen material into a water of the United States constitutes the “discharge of pollutants” within the meaning of Section 502(12) of the CWA, 33 U.S.C. § 1362(12).

46. The wetlands adjacent to the Grand River and the Grand River are navigable waters within the meaning of Section 502(7) of the CWA, 33 U.S.C. § 1362(7).

47. Respondent did not obtain a 404 permit prior to conducting the activities described in Paragraph 42 above.

Count II

48. In December 2003, in Waverly, Carroll County, Missouri, Respondent, or one acting on its behalf, used a dragline to excavate earthen material from the bank of the Missouri River near river mile 293.4 to construct an access pad within the river. While using the dragline, Respondent discharged dirt, spoil, rock or sand into the Missouri River.

49. The dragline used by Respondent acted as a “point source” within the meaning of Section 502(14) of the Act, 33 U.S.C. § 1362(14).

50. The gravel and earthen material that was placed into the Missouri River is a “pollutant” within the meaning of Section 502(6) of the CWA, 33 U.S.C. § 1362(6).

51. The deposition of gravel and earthen material into a water of the United States constitutes the “discharge of pollutants” within the meaning of Section 502(12) of the CWA, 33 U.S.C. § 1362(12).

52. The Missouri River is a “navigable water” within the meaning of Section 502(7) of the CWA, 33 U.S.C. § 1362(7).

53. Respondent did not obtain a 404 permit prior to conducting the activities described in Paragraph 48 above.

Findings of Violation of Section 404 of the CWA

Count I

54. The facts stated in paragraphs 43 through 47 above are herein incorporated.

55. The use of a bulldozer referenced in Paragraph 43 indicates that Respondent discharged pollutants into wetlands and the Grand River by using earth-moving equipment without obtaining a Section 404 permit.

56. Respondent's failure to obtain a Section 404 permit prior to conducting activities described in Paragraph 43 above is a violation of Section 301(a) of the CWA, 33 U.S.C. § 1311(a).

Count II

57. The facts stated in Paragraphs 48 through 53 above are herein incorporated.

58. Respondent's use of a dragline referenced in Paragraph 48 above indicates that Respondent discharged pollutants into the Missouri River without obtaining a Section 404 permit.

59. Respondent's failure to obtain a 404 permit prior to conducting activities described in Paragraph 48 above is a violation of Section 301(a) of the CWA, 33 U.S.C. § 1311(a). Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants except in compliance with other sections of the CWA, including, but not limited to, Section 402 and Section 404 of the CWA, 33 U.S.C. § 1342 and § 1344. Section 402 of the CWA provides that the discharge of storm water must be in conformity with an NPDES permit. Section 404 of the CWA provides that the discharge

of pollutants may only be done in accordance with the terms of a permit for the discharge.

B ORDER FOR COMPLIANCE ON CONSENT

Specific Provisions

60. Based on the authority of Section 309(a)(3) of the CWA, 33 U.S.C. § 1319(a)(3), Respondent CONSENTS and is hereby ORDERED as follows:

61. Respondent agrees to implement the Mitigation Project set forth in Attachment A, attached to and incorporated into this Order on Consent.

62. Respondent agrees that it shall be in EPA's sole discretion to determine whether Respondent has fully implemented the Mitigation Project in Attachment A and whether Respondent has adhered to the schedule contained therein. In making this determination, EPA will take into account Respondent's good-faith efforts as well as any factors beyond Respondent's control.

63. Respondent shall submit a design for the construction described in Attachment A within 30 days of the Effective Date of this Consent Order and, within 30 days of receipt of EPA's comments, modify the design consistent with EPA's comments.

64. Respondent shall submit annual reports to EPA, beginning on the first anniversary of the Effective Date of this Order on Consent and continuing until EPA notifies Respondent in writing that the project is complete. The annual reports shall outline the status of the project and corrective actions, if any, that will be taken to maintain the original vegetation.

65. Respondent agrees to execute and file with the Register of Deeds for Carroll County, Missouri, an easement/deed restriction/covenant for the property identified as the

mitigation site in Attachment A, within 30 days of the Effective Date of this Order on Consent. The easement/deed restriction/covenant shall set aside the mitigation site for the purposes described in Attachment A.

66. Respondent agrees to send EPA a file-stamped copy of the easement/deed/covenant within 10 days of receiving a final copy from Carroll County, Missouri Register of Deeds.

67. Respondent agrees that this Order on Consent shall not constitute a permit under the CWA. Compliance with the terms of this Order on Consent shall not relieve Respondent of its responsibility to obtain any required local, state, and/or federal permits. Specifically, Respondent agrees to consult with the Corps and agrees to obtain all permits that the Corps determines necessary before commencing any work required by this Order on Consent.

68. Respondent agrees that no changes shall be made to the Mitigation Project, Attachment A, without prior written approval from EPA.

69. Respondent shall submit all reports and deliverables required by this Order on Consent to EPA and the Corps at the following addresses:

Mr. Raju Kakarlapudi, Enforcement Officer
Water, Wetlands, and Pesticides Division
U. S. Environmental Protection Agency – Region VII
901 N. Fifth Street
Kansas City, Kansas 66101

Mr. Mark Frazier, Reg. Program Manager/Assistant Branch Chief
Kansas City District, U. S. Army Corps of Engineers
601 E. 12th Street
Kansas City, MO 64106

General Provisions

70. Respondent admits the jurisdictional allegations in this Order on Consent and agrees not to contest EPA's jurisdiction in this proceeding or any subsequent proceeding to enforce the terms of the Order on Consent.

71. Respondent neither admits nor denies the factual allegations contained in this Order on Consent.

72. Nothing contained in the Order on Consent shall alter or otherwise affect Respondent's obligations to comply with all applicable federal, state, and local environmental statutes and regulations and applicable permits.

73. Compliance with the terms of this Order on Consent shall not relieve Respondent of liability for any violations of the CWA not addressed in this Order on Consent or in the Consent Agreement and Final Order that was filed as a companion to this Order on Consent. In addition, nothing in this Order on Consent shall prohibit EPA from seeking additional injunctive relief pursuant to Section 309 of the CWA, 33 U.S.C. § 1319.

74. Nothing in this Order on Consent shall limit EPA's right to obtain access to the area where the mitigation is being performed and to request additional information from Respondent, pursuant to the authority of Section 308 of the CWA, 33 U.S.C. § 1318 and any other authority.

75. If any provision or authority of this Order on Consent, or the application of this Order on Consent to Respondent, is held by federal judicial authority to be invalid, the application to Respondent of the remainder of this Order on Consent shall remain in force and effect and shall not be affected by such a holding.

76. The signatory below certifies that he is fully authorized to enter into the terms and conditions of this Order on Consent.

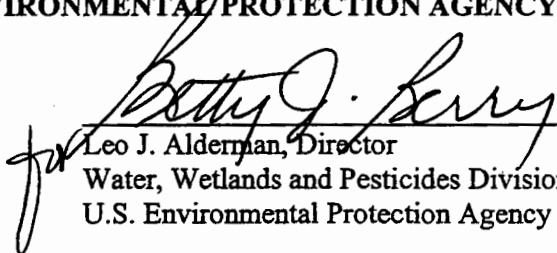
77. The terms of this Order on Consent shall be effective and enforceable against Respondent on the Effective Date, which is the date this Order on Consent is signed by EPA.

78. This Order on Consent shall remain in effect until a written notice of termination is issued by an authorized representative of EPA. Such notice shall not be given until all of the requirements of this Order on Consent have been met.

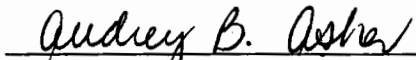
Issued this 18th day of August, 2005.

FOR THE U. S. ENVIRONMENTAL PROTECTION AGENCY:

08/18/05
Date

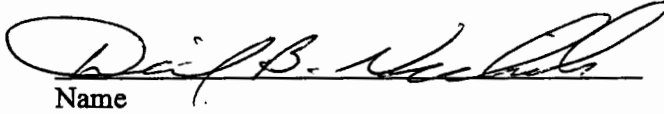

for Leo J. Alderman, Director
Water, Wetlands and Pesticides Division
U.S. Environmental Protection Agency Region VII

8/16/05
Date


Audrey B. Asher
Senior Assistant Regional Counsel
U.S. Environmental Protection Agency Region VII


For the RESPONDENT:

08-10-05
Date


Name

Title Director of Program Delivery


08/11/05
Date

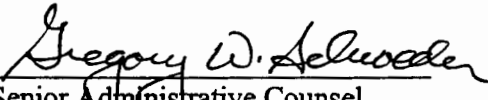

Name

Title Asst. Chief Counsel-Project Development

Attest:

Approved As to Form:


Secretary to the Missouri Highways
and Transportation Commission


Senior Administrative Counsel

CERTIFICATE OF SERVICE

I hereby certify that on the 22nd day of Aug 2005, I hand-delivered the original of the foregoing Findings of Violation and Order for Compliance on Consent with the Regional Hearing Clerk of the United States Environmental Protection Agency, Region VII, 901 North Fifth Street, Kansas City, Kansas 66101; a true and correct copy of the same was sent by first class mail on the 22nd day of Aug 2005 to the attorney for the Missouri Department of Transportation, Gregory W. Schroeder, Senior Administrative Counsel, Missouri Highways and Transportation Commission, P.O. Box 270, 105. W. Capitol Avenue, Jefferson City, MO 65102.

Anna M. Rock

**ATTACHMENT A
Mitigation Project
Big Creek Floodplain
Carroll County, Missouri**

Project Impacts/History

MoDOT has identified an area of approximately 50 acres in the Big Creek Floodplain, about two miles north of Rte 24 on Rte 139 in Carroll County, Missouri, as the site of a mitigation project.

Baseline Information/Goals

The primary wetland mitigation goal is to re-establish wetland hydrology and hydrophytic vegetation at the proposed wetland restoration site located within T53N-R22W- Sec14. The proposed site consists of an agricultural field (approximately 49 acres in size) that is effectively drained through ditches that are located along the north, east and west sides of the property. These ditches function in the removal of the wetland hydrology component from most of the area targeted for wetland restoration. The site is bounded by Route 139 on the east side and mapped forested wetland on the west side. It should be noted that most of NWI- mapped emergent wetland depicted on the attached map would not meet the Corps criteria as jurisdictional wetland because it has been effectively drained. One existing jurisdictional emergent wetland area is present within the north-central portion of the site. The Land Learning Foundation ("LLF"), the lessor of the property, has made a request to the NRCS to complete a certified wetland determination for this site. The NRCS has indicated that the delineation should be completed in early June. The predominant soil map unit that composes the site include Zook silty clay loam, which has a hydric composition of 90 percent (See attached soil mapping).

Mitigation Work Plan

The restoration of wetland hydrology will be accomplished through construction of a levee that will capture surface water runoff from the south, as well as over bank flood events from Big Creek (see attached plan sheet). A series of pipes, flap gates, and a water control structure will allow for full control of the water that will be maintained at the site. The attached drawing is a compilation of survey elevations combined with a schematic of the proposed levee construction.

The restoration of wetland hydrology will be accomplished through the construction of low profile levees on the east, north and west sides of the site. No levee construction will be completed along the south side, as the natural topography along this boundary is higher than the top elevation of the proposed levee. The preliminary survey date indicates that most of the land within the restoration area has a surface elevation of approximately 100 feet. The top elevation of the proposed levee will be constructed to 103.0 feet and the water control structure will be set at 102.5 feet. Completion of these

components will provide approximately 2.5 feet of storage capacity. Existing features (i.e., sloughs and oxbows), as well as creative borrow areas, will provide variable depths between 4-5 feet at full pool. The proposed levees will be constructed with a 10-foot top width and 6:1 side slopes. An emergency spill way will be constructed at an elevation of 102.5 feet, and it will be located at the southwest corner of the site. Excavation of borrow will be undertaken within the limits of the proposed pool area. This area should increase the flood storage capacity and surface water detention capability of this site.

The proposed plan consists of four 70-foot lengths of pipe and one water control structure. Pipe # 1 will be located on the east side of the site between KCP&L pole # 6 and # 7. This pipe will consist of a 24 inch diameter Hancor double wall structure with a flap gate installation. The primary purpose of this pipe is to capture surface water runoff from the adjacent hill slope (if inflow is desired) or to convey water down the existing roadway ditch (if outflow is the objective). Pipe # 2 is located along the east side of the site between KCP&L poles # 2 and # 3 and it will consist of a 5- foot Agri-Drain water control structure with a 24-inch diameter steel outlet pipe. A fabricated flap gate with a frame and winch will be installed at the inlet pipe to provide a mechanism to drain the area. A second flap gate will be installed at the outlet end to enable opening the outlet and removing the stop logs to allow water from Big Creek to back flood the area. The inlet flap will automatically let water in and then close, thus retaining the water in the tract. Once the backwater has been captured, the stop logs can then be installed into the water control structure and the front gate can be opened to allow excess water to flow back into Big Creek.

Pipe #3 is located on the west side of the site and it will consist of a 70-foot Hancor double wall pipe with flap gates on each end. This pipe will facilitate the capture of surface water runoff from the adjacent hill slope or discharge water into the existing drainage ditch when it is not needed. Pipe #4 will be located in the southwest corner of the site and will consist of a 70-foot Hancor double wall pipe with a flap gate on the southern end. This pipe will be set above the water line elevation and it will serve the same purpose as defined above for pipe # 1 and # 3. A flap gate will only be required for the southern end, as the northern end will be situated above the water line.

Following restoration of wetland hydrology to the site, it is anticipated that establishment of the vegetation will be accomplished through natural succession. The undisturbed farmland areas and the existing wetland within the proposed pool area should generate a viable seed bank to allow colonization by native hydrophytes. In addition, natural seed dispersal through wind, water, and animals (both avian and mammalian) will act to supplement the remaining seed bank at the site. Constructed levees will be seeded with Virginia wild rye (*Elymus virginicus*) at a rate of 24 pounds pure live seed (PLS) per acre to provide vegetative protection against erosion.

Success Criteria/Monitoring Plan/Maintenance

A follow-up maintenance and monitoring program will be implemented to ensure the vitality and functional integrity of the constructed wetland. This plan includes elements

of vegetative monitoring and hydrologic monitoring. MoDOT will assume the responsibility for maintenance and monitoring during the first five years following completion of restoration activities at the site to ensure success. Relative success of the mitigation site will be evaluated by conducting vegetational analyses for each Cowardin class that develops as the site undergoes succession. (e.g., palustrine emergent and palustrine scrub shrub).

Success of the hydrophytic vegetation component will be based on the predominance of hydrophytes that germinate from the existing seed bank, or that which develops through natural means such as flood events, wind dispersal, or through avian and mammalian dispersal mechanisms. If natural succession fails to achieve that targeted goals (i.e., development of the desired species), success will only be deemed inadequate if either of the following occur: 1) the density of those hydrophytic species [i.e., those which are either designated as facultative (FAC), facultative wet (FACW), or obligate (OBL)] that develop through natural succession compose less than 50 percent of the dominant species, or 2) the establishment of monoculture stands of undesirable species, such as reed canarygrass (*Phalaris arundinacea*) compose over 30 percent of the floor of the site.

If at the end of the 5 year monitoring period, the latter of these conditions persist at the site, MoDOT will remediate as necessary through eradication of the undesirable vegetation by chemical and/or mechanical means. Following the eradication, MoDOT will consult with the EPA to determine the necessary means to revegetate the affected area(s). If supplemental plantings are required due to the lack of hydrophytes (i.e., <50 percent of the dominant species are FAC or wetter), MoDOT will review the original design criteria and supporting hydrologic data to formulate a remedial action proposal for submittal to the EPA.

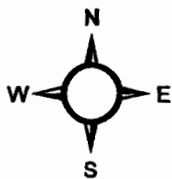
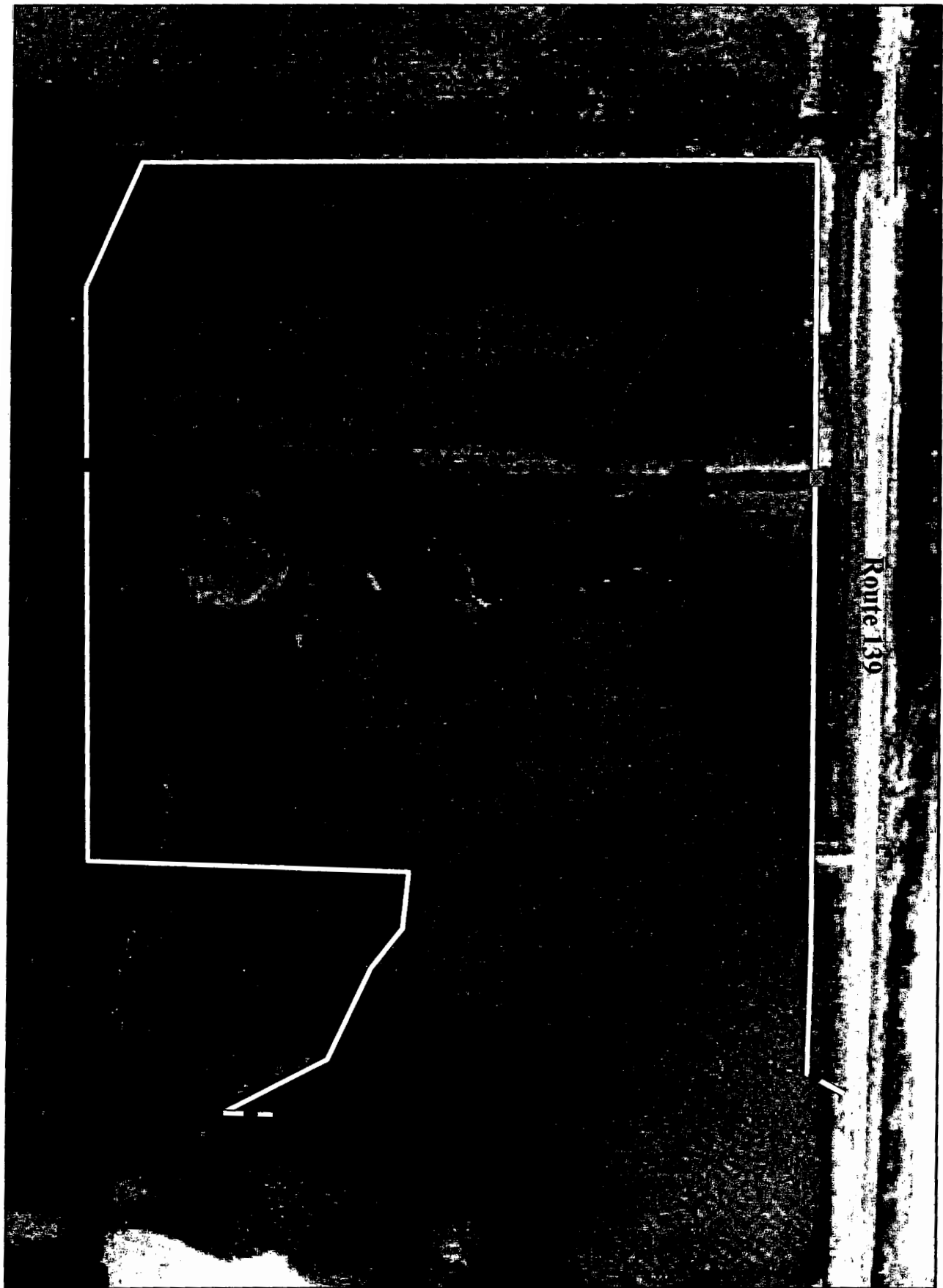
Hydrologic monitoring shall be conducted via periodic site visits throughout the growing season (April 19- October 16). Visual observation of the depth of soil saturation, presence of drift lines, inundation, etc., will be recorded during these visits. If required, further data collection to document the presence of wetland hydrology at the site will include visual analysis of soil probe core samples across the site to determine if the influence of the chemical and biological processes relating to soil/water interaction have resulted in a redoximorphic signature within the upper 10 inches of the soil profile. Success of wetland hydrology will be a measure of adequately demonstrating that the site is saturated, ponded, or flooded for at least 15 days throughout the growing season.

Noxious weed control will be undertaken as needed by MoDOT during the first five years following the completion of vegetative restoration activities at the site. No actual maintenance in this regard is anticipated, however, if remedial measures are needed, MoDOT will consult with the EPA to take the necessary corrective action. Other corrective action with respect to hydrology, soils and vegetation will be undertaken by MoDOT for a period of at least five years.

Site Protection/Project Timeline

MoDOT will obtain a conservation easement or a restrictive covenant, running with the land from the Land Learning Foundation ("LLF").¹ Project construction is planned for July 2005; completion of the project is anticipated for the Fall 2005.




¹ The LLF is owned by Bryce and Brad Evans who have agreed to keep the site under a long-term lease to the LLF for educational and recreational activities. These activities will include on-site wetland education, hiking, wildlife observation, hunting, and other activities undertaken by the LLF in its continuing efforts to educate the public about the importance of wetland and riparian ecosystems.



Big Creek Wetland Mitigation Project
Approximately 2 Miles North of Rte 24 on Route 139
Sec 14- Township 53 N- Range 22 W

0 80 160 320 480 640
Feet

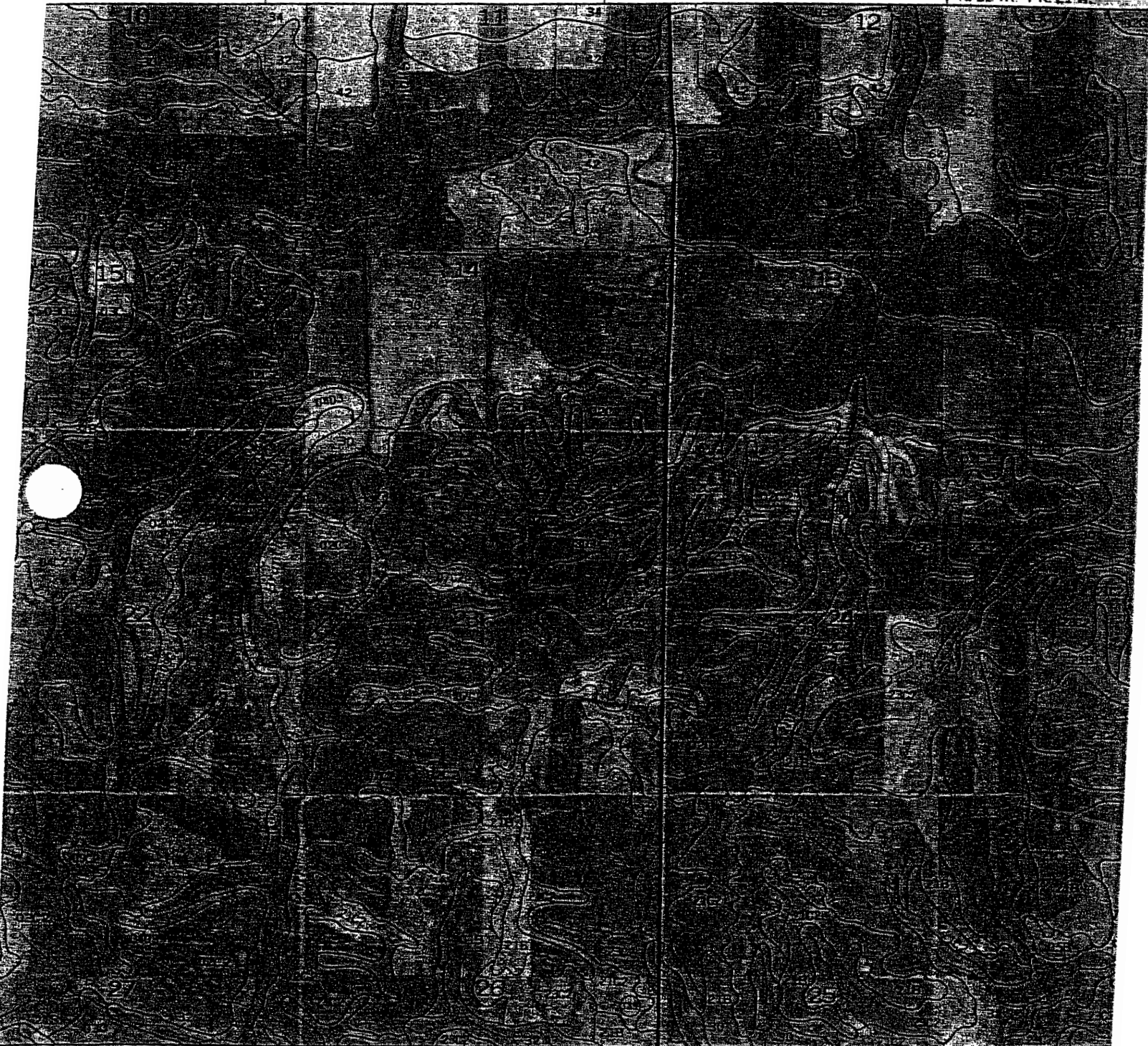
Legend

-  water control structure
-  pipes
-  levee

SOIL SURVEY OF CARROLL COUN

(Joins sheet 26)

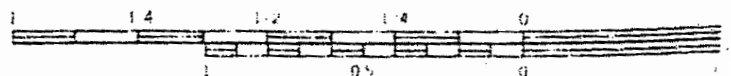
1 R. 22 W. 1 R. 21 W.

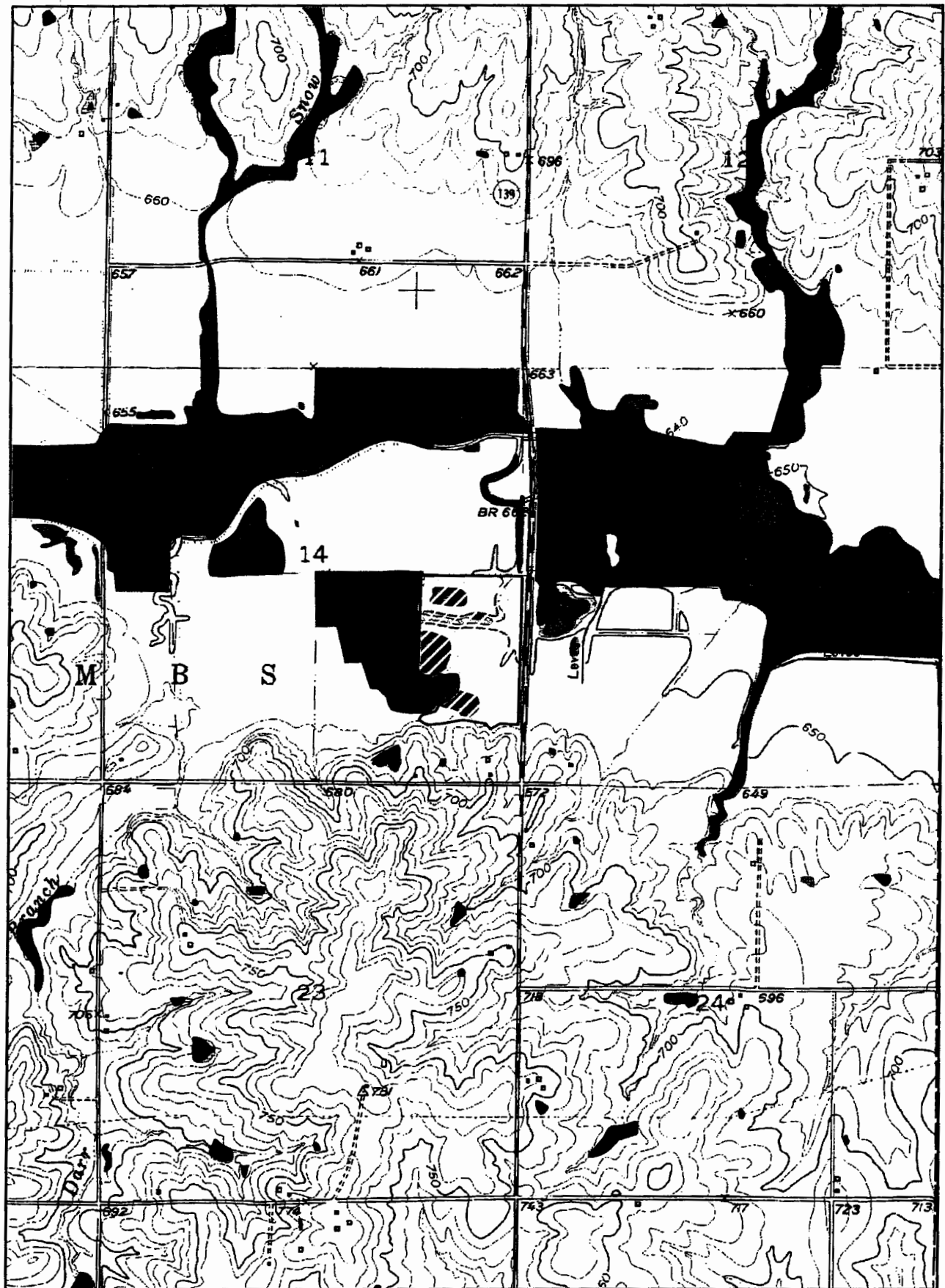


235~ (Joins sheet 37)

21C2

23C2

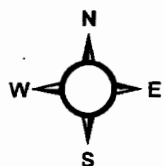




Big Creek Wetland Mitigation Project NWI Coverage

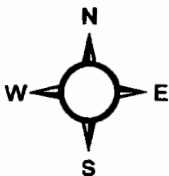
Legend

- siteboundary
- Forested Wetland
- Emergent Wetland
- Scrub-Shrub Wetland
- Open Water (Ponds, Lakes, etc.)



0 850 1,700 3,400 5,100 6,800 Feet

Proposed Wetland Restoration
Approximately 49 acres

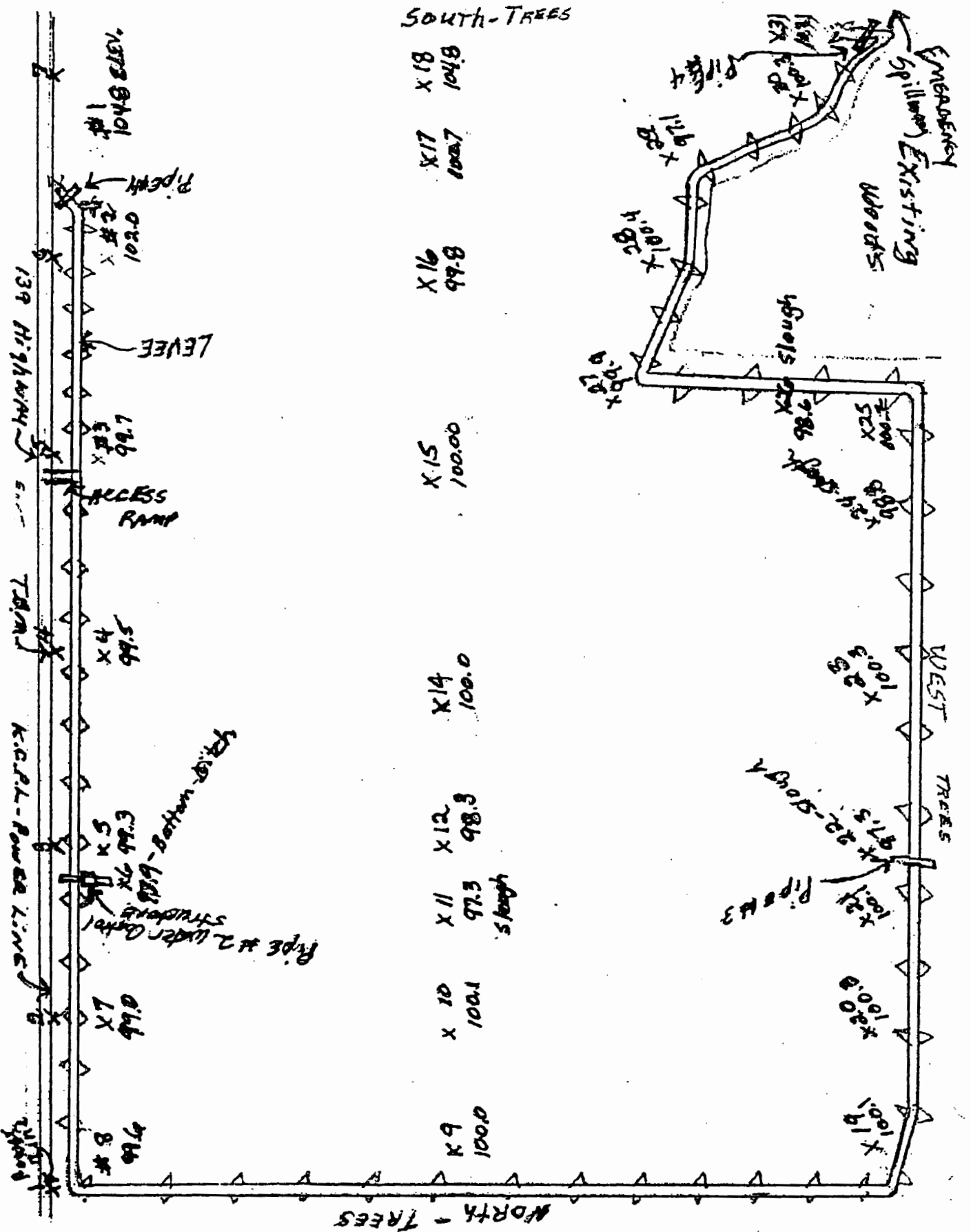


Big Creek Wetland Mitigation Project
Approximately 2 Miles North of Rte 24 on Route 139
Sec 14- Township 53 N- Range 22 W

0 230 460 920 1,380 1,840 Feet



Environmental Mapping



ATTACHMENT A MITIGATION PROJECT SCHEDULE

File an easement/deed/restrictive covenant setting aside the mitigation site to implement the Mitigation Plan	w/in 30 days of the Effective Date
Submit to EPA a file-stamped copy of the easement/deed/covenant	w/in 10 days of receipt of final copy from Carroll County Register of Deeds
Draft Design	w/in 90 days of Effective Date of Findings of Violation/Order for Compliance
Final Design	w/in 30 days of receipt of EPA's comments
Project Completion Report (narrative and photos to demonstrate compliance with the EPA approved design)	by October 31, 2006
Annual Reports (to include corrective actions, if any, and success criteria/monitoring plan/maintenance, as set forth in Attachment A)	Annually by October 31, 2007 through October 31, 2011.